

VE No. 4

VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

☒ Conceptual Proposal

☒ Final Proposal
MMA

Date 08/14/09

Contract ID 090626-601

Job No. J6I1830B

County St. Louis

Original Bid Cost \$34,815,241.53

Contractor Fred Weber, Inc.

By Brian J. Carlson

Designed By Fred Weber, Inc.

Phone (314) 792-6784

VECP# 10-06 (to be completed by C.O.)

VECP ☒ or PDVECP ☐

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages

Existing: The original plans require construction of a temporary bridge to handle SB I-270 traffic while the existing structure is demolished and a new bridge over Dorsett Road is re-built half at a time in order to satisfy the proposed Diverging Diamond Interchange (DDI) configuration. Construction under this scenario will affect traffic on both I-270 and Dorsett Road. Dorsett Road will have to be closed entirely at times in order to demolish the existing bridge, for periods during construction of the new bridge and during demolition of the temporary bridge structure.
(Continued on attached page)

2. Estimate of reduction in construction costs. \$109,595.50

3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.

N/A

4. Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.

08/14/09

(date)

5. Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.

08/28/09

(date)

Need to know for ordering material.

(effect)

6. Dates of any previous or concurrent submission of the same proposal.

N/A

(date and/or dates)

AUG 17 2009
MMA

Additional Comments:

**** Portion Below This Line To Be Filled Out by MoDOT ****

Comments:

After reviewing the proposed plans with the Design Project Manager, Consultant Designer and Structural Liaison Engineer, I am recommending approval of this Value Engineering Proposal. The original design for the temporary bridge was a 4 span structure. The contractor has proposed reducing it to a two span and using temporary MSE Abutments rather than spill slopes. This proposal also eliminates the need to replace several of the 55 foot girders that would have been necessary should the two 55-foot spans have been built.

Matthew N. Jansson 2-19-10
Submitted By Resident Engineer JANSSON Date

Comments:

UPON REVIEW OF THIS PROPOSED VE AND NOTING THOSE INVOLVED WITH THE PRIOR REVIEWS, I FEEL CONFIDENT IN RECOMMENDING APPROVAL OF THIS VE.

☒ Approval
Recommended

☐ Rejection
Recommended

Ed Harris 2-23-10
District Engineer Date

Comments:

☒ Approval
Recommended

☐ Rejection
Recommended

Sharon R. Budd 3/9/10
Federal Highway Administration Date
Required for FHWA Full Oversight Projects

Comments:

Approved on the basis of the merits of the proposal and that the district involved the appropriate people in the discussion and issue resolution process. DMG. 3/1/2010

☒ Approval

☐ Rejection

David D. Glascock 3/1/2010
Digitally signed by Denis Glascock
DN: cn=Denis Glascock, c=US, o=MoDOT, ou=3H35,
email=Denis.Glascock@modot.mo.gov
Date: 2010.03.01 08:04:15 -0500
State Construction and Materials Engineer Date

Distribution: Resident Engineer, Project Manager, District Construction & Materials Engineer, State Construction & Materials Engineer, FHWA
Value Engineering Administrator - MoDOT, P. O. Box 270, Jefferson City, MO 65102

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages
Continued.....

Proposed: Fred Weber, Inc. proposes to eliminate bents 2 & 4 of the proposed temporary bridge A7659T by moving end bents 1 & 5 to these locations, thus converting it from a 4-span bridge to a 2-span structure. This would eliminate the need for the 55'-9" girder sections. The change can be made since it is not absolutely necessary to have the additional space between spans 1-2 and 4-5 as shown in the plans for construction of the new Dorsett Bridge A7659. Temporary pavement widening on Dorsett Road stays between bents 2 & 4 according to the traffic control plans beginning on sheet 26. Wire basket shoring will be used to support the additional embankment material that is needed for the bridge end bents.

Bypass Quantities for SB I-270

Line Item	Description	Units	Plan Quantity	Unit Price	Proposed Quantity	Difference	Unit Price	Total
0090	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK)	SQYD	23,724.00	\$5.80	24,284.00	560.00	\$5.80	\$3,248.00
0480	TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURN.	LF	4,220.00	\$17.00	4,444.00	224.00	\$17.00	\$3,808.00
ADD	REMOVAL OF TEMPORARY BYPASS PAVT.	SQYD	0.00	\$3.00	560.00	560.00	\$3.00	\$1,680.00
ADD	EMBANKMENT IN PLACE (FOR BYPASS PAVT.)	CUYD	0.00	\$8.00	3,400.00	3,400.00	\$8.00	\$27,200.00
ADD	ADDITIONAL MISC. TEMPORARY BYPASS PAVT.	SQYD	0.00	\$30.00	560.00	560.00	\$30.00	\$16,800.00
Subtotal								\$52,736.00

Eliminate Bents 2 & 4 Temp. Bridge A7659T

Line Item	Description	Units	Plan Quantity	Unit Price	Proposed Quantity	Difference	Unit Price	Total
2230	REMOVAL OF ASPHALT WEARING SURFACE	SQFT	12,036.00	\$0.80	6,996.00	-5,040.00	\$0.80	(\$4,032.00)
2240	CURB REMOVAL	LF	210.00	\$34.00	154.00	-56.00	\$34.00	(\$1,904.00)
2260	ALTERNATE ASPHALTIC CONC. WEARING SURFACE	SQYD	1,340.00	\$12.50	780.00	-560.00	\$12.50	(\$7,000.00)
2270	TACK COAT	GAL	80.00	\$10.25	50.00	-30.00	\$10.25	(\$307.50)
2290	STRUCTURAL STEEL PILES (12 IN.)	LF	2,394.00	\$36.50	798.00	-1,596.00	\$36.50	(\$58,254.00)
2300	CLASS B CONCRETE (SUBSTRUCTURE)	CUYD	100.80	\$508.00	60.80	-40.00	\$508.00	(\$20,320.00)
2310	SAFETY BARRIER CURB	LF	210.00	\$119.00	154.00	-56.00	\$119.00	(\$6,664.00)
2320	39 IN. PRESTRESSED CONCRETE BOX GIRDER BEAM	LF	245.00	\$268.00	77.00	-168.00	\$268.00	(\$45,024.00)
2330	REINFORCING STEEL (BRIDGES)	LB	13,870.00	\$1.40	8,370.00	-5,500.00	\$1.40	(\$7,700.00)
2340	FABRICATED STRUCTURAL CARBON STEEL (MISC)	LB	6,060.00	\$2.80	2,020.00	-4,040.00	\$2.80	(\$11,312.00)
2350	PLAIN NEOPRENE BEARING PAD	LF	398.00	\$43.00	200.00	-198.00	\$43.00	(\$8,514.00)
2360	TRANSPORTING AND ERECTING SUPERSTRUCTURE	LS	1.00	\$217,000.00	0.60	-0.40	\$217,000.00	(\$86,800.00)
2370	REMOVING AND STORING SUPERSTRUCTURE	LS	1.00	\$105,000.00	0.60	-0.40	\$105,000.00	(\$42,000.00)
ADD	ADDITIONAL TEMPORARY SHORING	SQFT	0.00	\$25.00	3,500.00	3,500.00	\$25.00	\$87,500.00
ADD	ENGINEERING, DESIGN & SURVEY	LS	0.00	\$50,000.00	1.00	1.00	\$50,000.00	\$50,000.00
Subtotal								(\$162,331.50)

Total Savings

MoDOT Portion - 50%

Fred Weber, Inc. Portion - 50%

(\$109,595.50)

(\$54,797.75)

(\$54,797.75)

Missouri
Department
of Transportation



I-270, Dorsett-Page Team
2620 Adie Road
Maryland Heights, MO
63043
(314) 877-2770
Fax (314) 877-2772
Toll free 1-888 ASK MoDOT

Lee Hillner, P.E., Project Director
Niall Jansson, P.E., Deputy Director

August 17, 2009

Mr. Brian Carlson
Fred Weber, Inc
P.O. Box 2501
Maryland Heights, MO 63043

Subject: Value Engineering No. 4 (2-Span Temp Bridge) – Concept Approved
Job No.: J6I1830B
Route I-270 – St. Louis County
Contract ID: 090626-601

Dear Mr. Carlson:

We have reviewed the concept you submitted to construct the temporary bridge using two spans rather than four, henceforth known as VE No. 4, and we take no exception at this time. Obviously, the abutments will need to be redesigned for the increased load of the longer spans and signed and sealed drawings will be required for the mesh basket mechanically stabilized earth system. The design will probably need a description of how the mesh baskets will be installed around pile since it will be different than how we traditionally run MSE Wall straps either side of a pile.

If you have any questions, please call me at (314) 877-2770.

Sincerely,

Niall Jansson, P.E.
Deputy Project Director
Copies: File
Lee Hillner-de6
Matt Budd-cm6

"Our mission is to provide a world-class transportation experience that delights our customers and promotes a prosperous Missouri."



DATE OF REVISION	BY	DESCRIPTION
4/19/2009	1-210	1-210
4/19/2009	6	6
4/19/2009	ST. LOUIS	ST. LOUIS
4/19/2009	JE110306	JE110306
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ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

STAGE 3 CONSTRUCTION

- #1 * PLACE ALL DEVICES AND SIGNING
- #2 * DEMOLISH S.B. HALF OF OLD BRIDGE
- #3 * CONSTRUCT CENTER BEAM OF NEW S.B. BRIDGE
- #4 * CONSTRUCT SOUTH HALF OF MSE WALL
- #5 * SHIFT TRAFFIC TO CONFL. BEAM (Dissected)

NOTES:

ALL DEVICES AT 20' SPACING UNLESS OTHERWISE NOTED.
A MINIMUM 10' LANE WIDTH MUST BE MAINTAINED AT ALL TIMES.
FURNISH LAYOUT OF TOP DEVICES AND SIGNING ON DORSETT RD.
SEE STAGE 2 OF THE TOP PLANS FOR RELOCATION OF TOP SIGNS.
ALL EXISTING SIGNS IN CONFLICT WITH TOP SHALL BE COVERED.
NO DIRECT PAYMENT WILL BE MADE FOR COVERING EXISTING SIGNS.

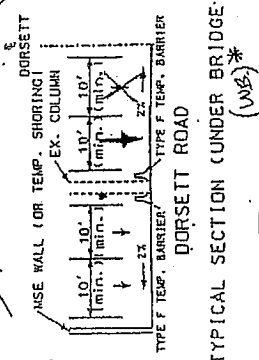
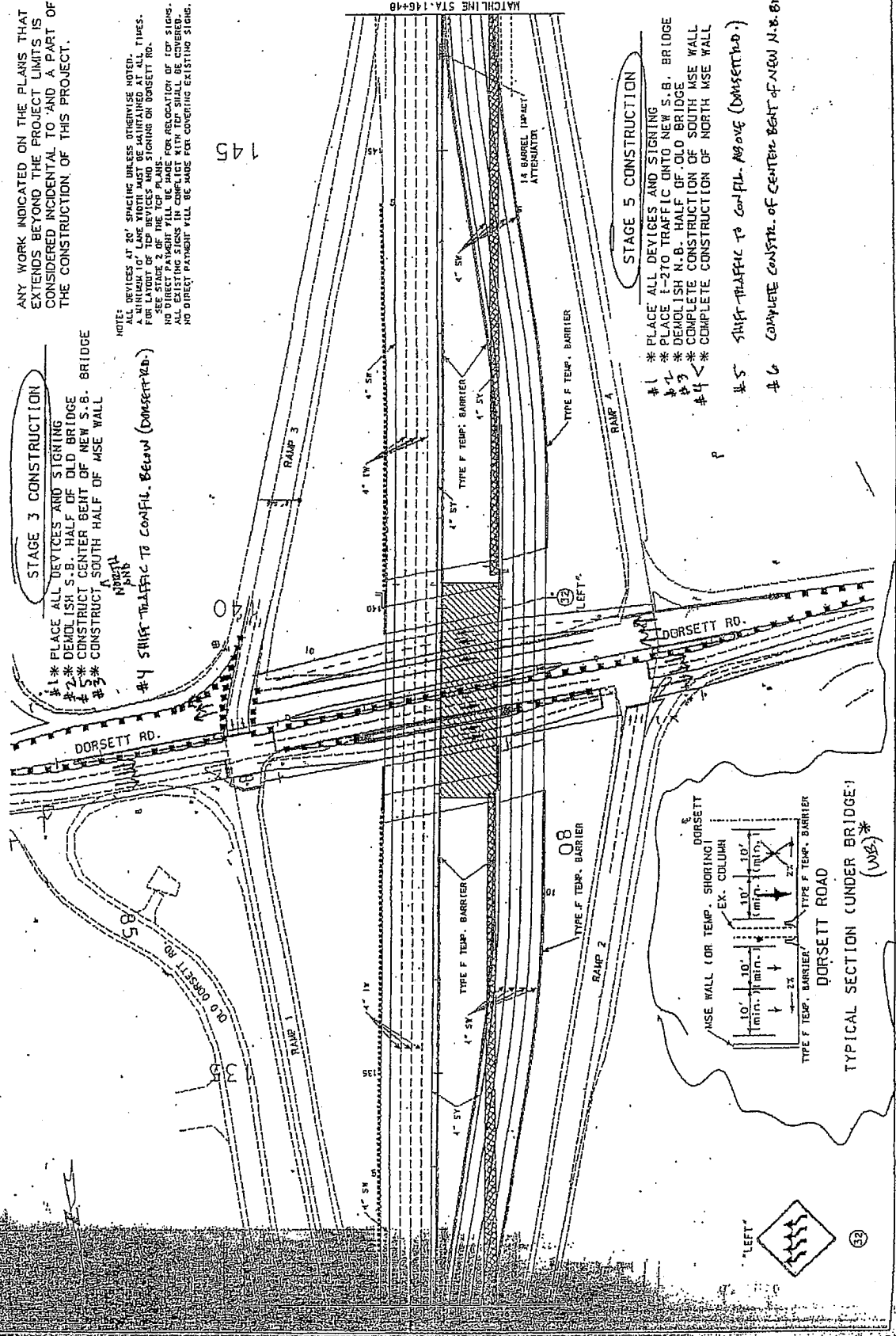
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MATCHLINE STA. 1+64+10

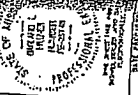
STAGE 5 CONSTRUCTION

- #1 * PLACE ALL DEVICES AND SIGNING
- #2 * PLACE I-270 TRAFFIC ONTO NEW S.B. BRIDGE
- #3 * DEMOLISH N.B. HALF OF OLD BRIDGE
- #4 * COMPLETE CONSTRUCTION OF SOUTH MSE WALL
- #5 * COMPLETE CONSTRUCTION OF NORTH MSE WALL
- #5 * SHIFT TRAFFIC TO CONFL. ABOVE (Dissected)
- #6 * COMPLETE CONSTR. OF CENTER BEAM OF NEW N.B. BR.

TRAFFIC CONTROL
STAGE 3
SHEET 5 OF 20



* MINOR IMAGE FOR E.B. TRAFFIC.



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TRAFFIC CONTROL
STAGE 3
SHEET 4 OF 20

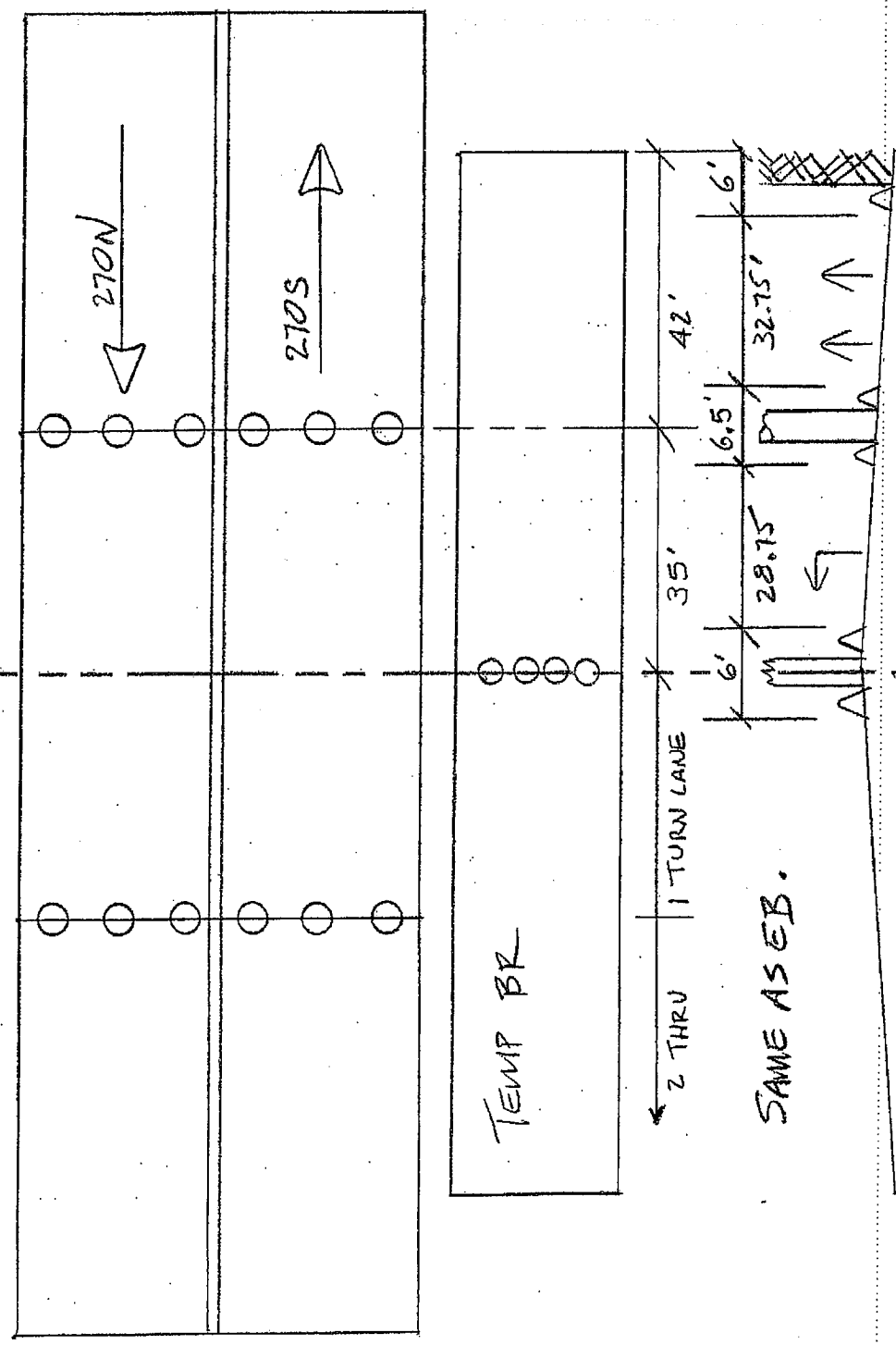
VE No. 4 TRAFFIC?

8-17-09

NIAL JANSSEN

EXISTING: 58'-70'-59'
TEMP: 77'-77'

NEW: 78'-78'



VALUE ENGINEERING CHECK SHEET

TYPE OF WORK

(Check one that applies)

- ☐ Bridge/Structure/Footings
- ☐ Drainage Structures (RCP, RCB, CMP's, ect.)
- ☐ TCP/MOT
- ☐ Paving (PCCP, ect.)
- ☐ Grading/MSE Walls
- ☐ Signal/Lighting/ITS
- ☒ Misc. Bridge and MSE wall

SUMMARY OF PROPOSAL

(If needed, condense summary to a couple of lines)

This VE involves using MSE walls instead of a spill slope to shorten a bridge.

SCANNING OF DOCUMENT

If the proposal is large, please mark or make note, which pages need to be scanned into the database. If there are special instructions, make note of them here.